

Southern Maine Medical Center)	Departmental
York County)	Finding of Fact and Order
Biddeford, Maine)	Air Emission License
A-006-71-K-A/R)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Southern Maine Medical Center (SMMC) in Biddeford, Maine has applied to renew their Air Emissions License, permitting the operation of three boilers and two diesel generators. The renewal license continues to permit the two generators to operate a combined 1000 hours per year for both generators.

SMMC has requested a modification to their license to change the fuel oil being fired in the boilers from #6 residual oil with a sulfur content not to exceed 1.0%, to #2 fuel oil with a sulfur content not to exceed 0.35%. The ability to burn Natural Gas in each boiler will be retained. The operational hour limit for the Generators has also been reduced from 2000 hr/yr to 1000 hr/yr.

B. Emission Equipment

SMMC is licensed to operate the following equipment:

Fuel Burning Equipment

Equipment	Date of Construction	Max. Capacity (MMBTU/hr)	Fuel Type, % Sulfur	Max. Firing Rate, Oil (gal/hr) Gas (scf/hr)	Stack #
Boiler #1	1978	12.6	#2 oil, 0.35 natural gas	90 12,353	1
Boiler #2	1978	12.6	#2 oil, 0.35 natural gas	90 12,353	1
Boiler #3	1990	6.3	#2 oil, 0.35 natural gas	45 6,177	1

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C. Additional Equipment

Generator Units

<u>Source ID</u>	<u>Max. Capacity</u>	<u>Max. Firing Rate</u>	<u>Power Output</u>
Generator #1	7.4 MMBtu/hr	52.9 gal/hr	750 kW
Generator #2	7.4 MMBtu/hr	52.9 gal/hr	750 kW

D. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as given in Maine’s Air Regulations. This modification is determined to be a minor modification and has been processed as a license renewal with a minor modification.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Existing Equipment (Generators)

SMMC operates two 750 kw (1135 hp) generators for emergency back-up power and for peak shaving to reduce electricity costs. BPT for the Generators shall be to operate both units less than 1000 hours/year combined, and to burn #2 fuel oil with a sulfur content not to exceed 0.35%. A modeling analysis was performed for the original license A-006-74-E-A/R, issued March 17, 1992, which showed Maine Ambient Air Quality Standard (MAAQS) were not violated.

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The visible emissions from the common stack shall not exceed an opacity of 30 percent on a six (6) minute block average basis, for more than two (2) six (6) minute block averages in a 3-hour period.

C. Existing Equipment (Boilers)

SMMC operate three boilers, two with maximum capacities rated at 12.6 MMBtu/hr each, and the third at a maximum heat capacity of 6.3 MMBtu/hr. The regulated pollutants from the boilers are particulate matter (PM), particulate matter with a diameter smaller than 10 microns (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC).

BPT for the Boilers shall be the following:

PM/PM₁₀ - 0.10 lb/MMBtu, BPT, #2 Fuel Oil

- 0.05 lb/MMBtu, BPT, Natural Gas

SO₂ – Combustion of #2 fuel oil @ 0.35% S, 0.355 lb/1000 gal, AP-42

- Combustion of Natural Gas, 0.6 lb/10⁶ scf, AP-42

NO_x – good combustion of #2 fuel Oil, 20 lb/1000 gal, AP-42

- Combustion of Natural Gas, 100 lb/10⁶ scf, AP-42

CO – good combustion of #2 Fuel Oil, 5 lb/1000 gal, AP-42

- Combustion of Natural Gas, 84 lb/10⁶ scf, AP-42

VOC – good combustion of #2 Fuel Oil, 0.556 lb/1000 gal, AP-42

- Combustion of Natural Gas, 5.5 lb/10⁶ scf, AP-42

Opacity from the common stack – 30% on a six minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

The licensed lb/hr emission limits are based on BPT lb/MMBtu, lb/1000 gal, or lb/10⁶ scf.

40 CFR, Part 60, Subpart Dc applies to fuel burning units between 10 MMBtu/hr and 100 MMBtu/hr, and installed after June 9, 1989. Boilers #1 and #2 were installed before June 9, 1989, and Boiler #3 is less than 10 MMBtu/hr. Therefore, Boilers #1, #2, and #3 are not subject to 40 CFR, Part 60, Subpart Dc.

D. Facility Emissions and Fuel Use Caps

SMMC shall comply with the following:

A. SMMC shall be limited to 300,000 gal/yr (12 month rolling total) of #2 Fuel with a sulfur content not to exceed 0.35% in boilers #1, #2, and #3.

B. SMMC shall be limited 1000 combined hrs (12 month rolling total) of operation for the Generators.

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- C. Emissions for the facility are based on firing the yearly limit of 300,000 gal of #2 fuel oil, @ 0.35% Sulfur, and firing Natural Gas for the balance of the year in the Boilers, and firing the Generators for the maximum of 1000 hours combined.

Total Allowable Annual Emissions for the Facility
12 month rolling total
(used to calculate the annual license fee)

	PM tons/yr	PM₁₀ tons/yr	SO₂ tons/yr	NO_x tons/yr	CO tons/yr	VOC tons/yr
Boilers, Fuel Oil	2.10	2.10	7.46	3.00	0.75	0.08
Boilers, Natural Gas	5.91	5.91	0.08	11.47	9.66	0.63
Generators	0.44	0.44	1.32	16.32	3.52	1.30
Total (tons/yr)	8.45	8.45	8.86	30.79	13.93	2.01

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by-case basis. Modeling and monitoring are not required of a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>TPY</u>
PM	50
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the above total facility emissions, SMMC is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

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- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards, or increment standards either alone or in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-006-71-K-A/R, subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 MRSA §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.

- (8) The licensee shall maintain sufficient records, to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (16) The licensee shall limit fuel use for boilers #1, #2, and #3 to no more than 300,000 gal/yr of #2 fuel oil (based on a 12 month rolling total) with a maximum sulfur content not to exceed 0.35% by weight. When firing natural gas, boilers #1, #2, and #3 shall be allowed to use an unlimited amount of natural gas. The licensee

shall maintain monthly fuel use records to demonstrate compliance with the fuel use limits.

(17) Boilers

- a. SMMC shall not exceed an opacity of 30% on a six (6) minute block average basis, for more than two (2) six (6) minute block averages in a 3-hour period from the common stack which the three boilers exhaust through.
- b. Fuel use records and receipts for boilers 1, 2, & 3 shall be maintained for at least six years and made available to the Department upon request.
- c. Emissions from boilers 1, 2 & 3 shall be limited to the following:

Boiler Emission Limits

(Firing #2 fuel oil)

<u>Equipment</u>		<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Boiler 1	lb/MMBtu	0.10	---	---	---	---	---
	lb/hour	1.26	1.26	4.47	1.80	0.45	0.05
Boiler 2	lb/MMBtu	0.10	---	---	---	---	---
	lb/hour	1.26	1.26	4.47	1.80	0.45	0.05
Boiler 3	lb/MMBtu	0.10	---	---	---	---	---
	lb/hour	0.63	0.63	2.24	0.90	0.23	0.03

(Firing Natural Gas)

<u>Equipment</u>		<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Boiler 1	lb/MMBtu	0.05	---	---	---	---	---
	lb/hour	0.63	0.63	0.01	1.24	1.04	0.07
Boiler 2	lb/MMBtu	0.05	---	---	---	---	---
	lb/hour	0.63	0.63	0.01	1.24	1.04	0.07
Boiler 3	lb/MMBtu	0.05	---	---	---	---	---
	lb/hour	0.32	0.32	0.01	0.62	0.52	0.03

(18) Generators

- A. The Generators shall burn #2 fuel oil with a sulfur content not to exceed 0.35% by weight. The operation of both generators combined shall not exceed 1000 hours/year (12 month rolling total). Based on the maximum firing rate and use of #2 fuel oil with a sulfur content not to exceed 0.35% by weight for each generator, emissions shall be limited to the following:

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Generators (each)

<u>Pollutant</u>	<u>lb/hr</u>	<u>lb/MMBtu</u>
PM	0.89	0.12
PM ₁₀	0.89	--
SO ₂	2.63	--
NO _x	32.63	--
CO	7.03	--
VOC	2.66	--

- B. The Generators shall operate operational hour meters for compliance purposes.
- (19) Visible emissions from the two Generators shall not exceed an opacity of 30 percent from the common stack on a six (6) minute block average basis, for more than two (2) six (6) minute block averages in a 3-hour period.
- (20) SMMC shall keep a copy of this Order on site, and have the operator(s) be familiar with the terms of this Order.
- (21) The term of this order shall be for five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 6/2/2003
Date of application acceptance: 6/16/2003

Date filed with Board of Environmental Protection: _____

This order prepared Jonathan Voisine, Bureau of Air Quality